Algorithms for computing efficient, electric-propulsion, spiralling trajectories

Completed Technology Project (2012 - 2013)

Project Introduction

Develop techniques for rapidly designing many-revolution, electric-propulsion, spiralling trajectories, including the effects of shadowing, gravity harmonics, and possibly impulsive manoeuvres, aerodynamic effects and gravity assists.

Anticipated Benefits

Missions will benefit from new techniques for rapidly designing many-revolution, electric-propulsion, spiralling trajectories, including the effects of shadowing, gravity harmonics, and possibly impulsive manoeuvres, aerodynamic effects and gravity assists.

Primary U.S. Work Locations and Key Partners
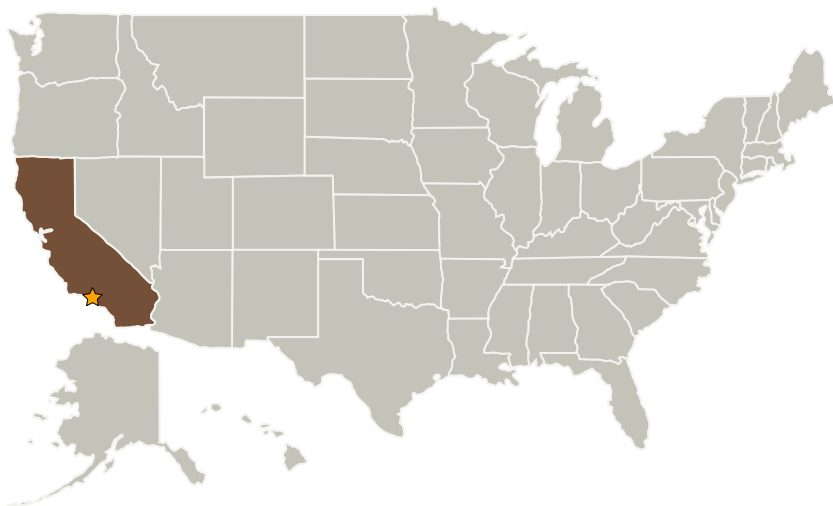
Organizations Performing Work	Role	Type	Location
⭐Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California

Primary U.S. Work Locations
California

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Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Center Independent Research & Development: JPL IRAD

Project Management
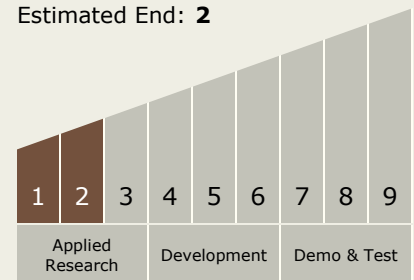
Program Manager:

Fred Y Hadaegh

Project Manager:

Jonas Zmuidzinas

Principal Investigator:

Anastassios E Petropoulos

Technology Maturity (TRL)

Start: **1**
Estimated End: **2**

1	2	3	4	5	6	7	8	9
Applied Research			Development			Demo & Test		

Technology Areas

Primary:

- TX17 Guidance, Navigation, and Control (GN&C)
  └ TX17.2 Navigation Technologies
    └ TX17.2.6 Rendezvous, Proximity Operations, and Capture Trajectory Design and Orbit Determination

Tech Port

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